

WQMP Basic Training Hands-on Exercise



Whitewater River Region Water Quality Management Plans For Urban Runoff

AEI  CASC
CONSULTING

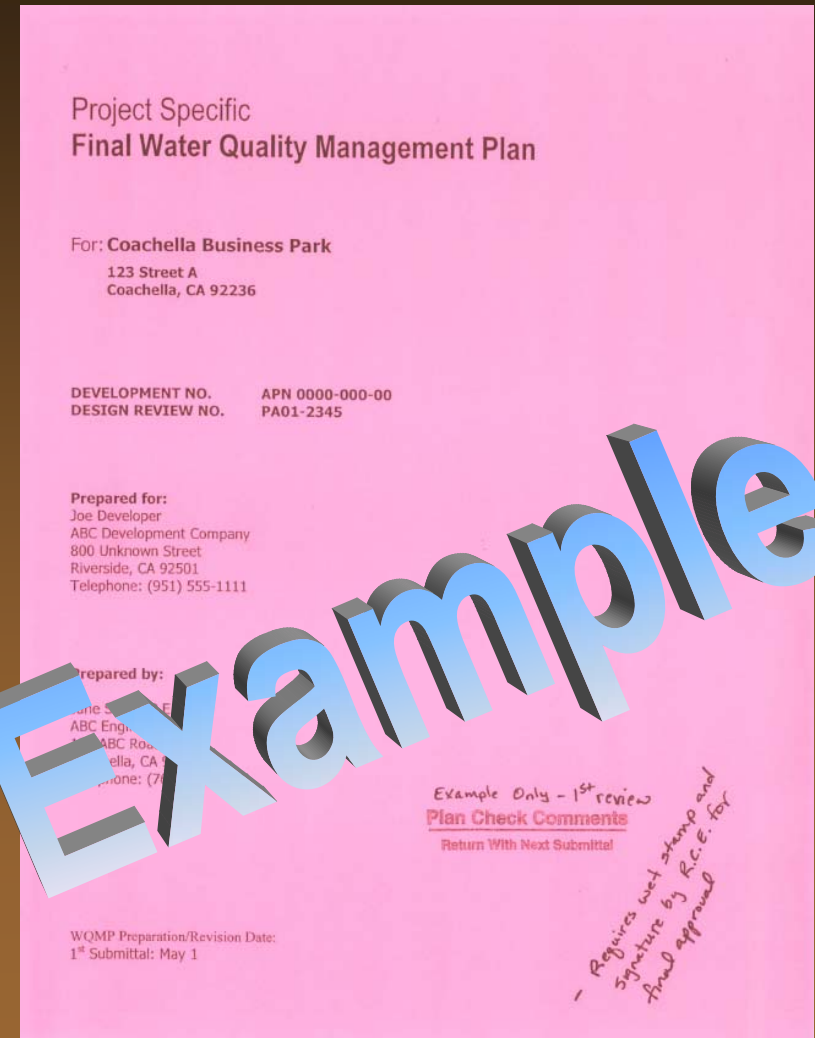
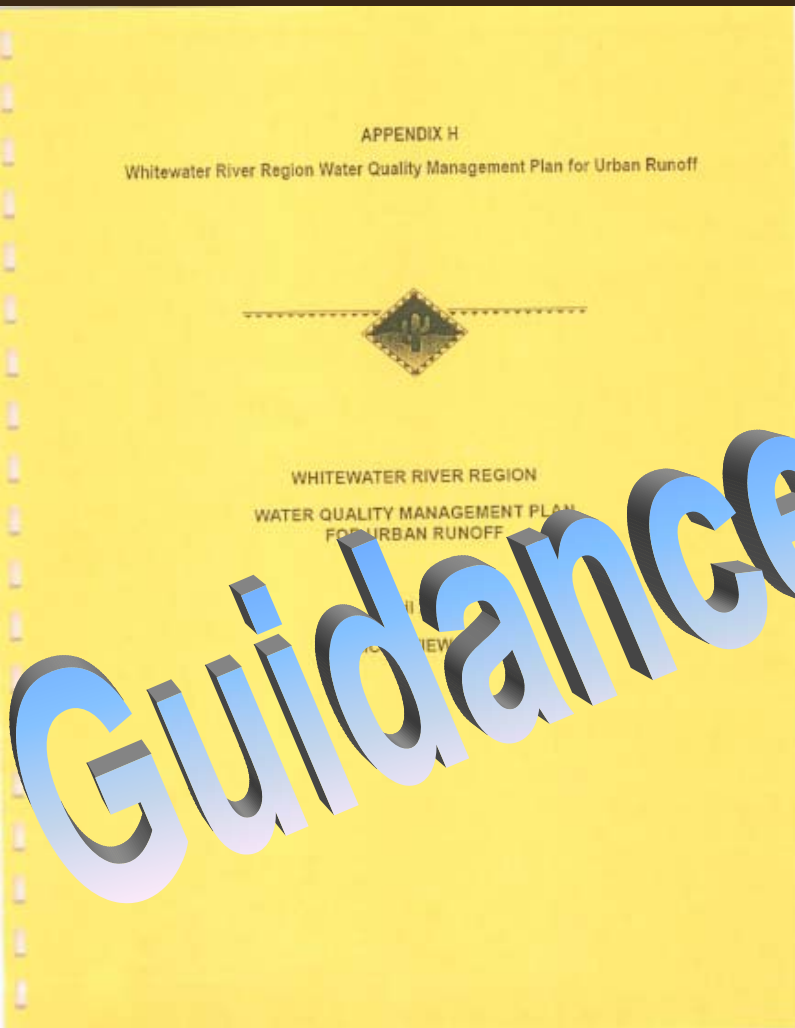
Today's Agenda

- ❖ Welcome and Training Process
- ❖ Whitewater River Region
 - ❖ NPDES Program Overview
- ❖ Project-Specific WQMPs
 - ❖ Project Categories
- ❖ Water Quality Management Plans - Hands-On Exercise
 - ❖ Sections I – VII
 - ❖ Appendices A - E
- ❖ Water Quality Management Plans - Hands-On Exercise
 - ❖ Appendix F - H
- ❖ WQMP Implementation
- ❖ Resources
- ❖ Roundtable Discussion
- ❖ Session Breaks
- ❖ Lunch - Provided



Hands-on Exercise

WQMP Plancheck Documents



Hands-on Exercise WQMP Plancheck

- ❖ Objective of this exercise is to plancheck a 1st Review of a Project-Specific WQMP
- ❖ General Project Information:
 - ◆ Coachella Business Park
 - ◆ Proposed use - Commercial Office Building
 - ◆ Located in the City of Coachella
 - No local ordinance for on-site retention
 - 2.3 Acre project
 - Four office buildings proposed
 - Soil Type A

Project Specific Final Water Quality Management Plan

For: **Coachella Business Park**

123 Street A
Coachella, CA 92236

DEVELOPMENT NO. APN 0000-000-00
DESIGN REVIEW NO. PA01-2345

Prepared for:
Joe Developer
ABC Development Company
800 Unknown Street
Riverside, CA 92501
Telephone: (951) 555-1111

Prepared by:
Jane Smith, P.E.
ABC Engineering
123 ABC Road
Coachella, CA 92236
Telephone: (760) 555-2525

Example Only - 1st review
Plan Check Comments
Return With Next Submittal

WQMP Preparation/Revision Date:
1st Submittal: May 1

*- Requires wet stamp and
signature by P.E.C. for
final approval*

Let's get started!

Hands-on Exercise Example Project



❖ General Project Information:

- ❖ Coachella Business Park
- ❖ Proposed use - Commercial Office Building
- ❖ Located in the City of Coachella
 - No local ordinance for on-site retention
 - 2.3 Acre project
 - Four office buildings proposed
 - Soil Type A



Hands-on Exercise Owner's Certification



- ❖ Shall have Developer and project information
- ❖ Shall contain the City or County Water Quality Ordinance
- ❖ Shall have Legal owner's signature for implementation
- ❖ Final Documents shall be notarized
- ❖ Consider Preliminary Title Report to verify ownership

Whitewater River Region WQMP
Project Title

OWNER'S CERTIFICATION

This project-specific Water Quality Management Plan (WQMP) has been prepared for:
Name of Owner/Developer
by Company Name
for the project known as **Project Title** at **Location Address**.

This WQMP is intended to comply with the requirements of Insert City or County Name for **TRACT, PARCEL OR OTHER ID NUMBER**, which includes the requirement for the preparation and implementation of a project-specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity.

The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under Insert City or County Name Water Quality Ordinance (Municipal Code Section).

If the undersigned transfers its interest in the subject property/project, the undersigned shall notify the successor in interest of its responsibility to implement this WQMP.

"I, the undersigned, certify under penalty of law that I am the owner of the property that is the subject of this WQMP, and that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

<hr/> <div>Owner's Signature</div> <hr/> <div>Owner's Printed Name</div> <hr/> <div>Owner's Title/Position</div> <hr/> <div>Date</div> <hr/> <div>Street Address</div> <div>City, State Zip</div> <div>Telephone Number</div>	<div>ATTEST</div> <hr/> <div>Signature</div> <hr/> <div>Printed Name</div> <hr/> <div>Title/Position</div> <hr/> <div>Date</div>
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Date

Hands-on Exercise

WQMP Contents

- ❖ **Section I – Project Description**
- ❖ **Section II – Site Characterization**
- ❖ **Section III – Pollutants of Concern**
- ❖ **Section IV – Hydrologic Conditions of Concern**
- ❖ **Section V – BMPs**
- ❖ **Section VI – Operation and Maintenance for TBMP**
- ❖ **Section VII – Funding**

Hands-on Exercise

Section I – Project Description



❖ Project Description

- ❖ Describes project information on developer, location, receiving water, SIC Codes, HOA, etc.

❖ Additional Permit information is important

- ❖ 1601
- ❖ 401
- ❖ 404
- ❖ Section 7

- ❖ Text narrative describing items listed in instructions

Additional Permits/Approvals required for the Project:

AGENCY	Permit required
State Department of Fish and Game, 1601 Streambed Alteration Agreement	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
State Water Resources Control Board, Clean Water Act (CWA) Section 401 Water Quality Certification	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
US Army Corps of Engineers, CWA Section 404 permit	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
US Fish and Wildlife, Endangered Species Act Section 7 biological opinion	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
Other (please list in the space below as required)	

Hands-on Exercise

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Hands-on Exercise

Section II – Site Characterization

❖ Site Characterization describes:

- ❖ Zoning - MU-3 (Multiple Use)
- ❖ Current Property use - Vacant
- ❖ Proposed Use – Commercial Site
- ❖ Soils Report? Yes
- ❖ Phase 1 Site Assessment? No

Hands-on Exercise

Section II – Receiving Waters



- ❖ What are receiving waters?
 - ❖ Waters that the project is tributary to
 - ❖ List in order of upstream to downstream

Receiving Waters for Urban Runoff from Site

Receiving Waters	303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Coachella Valley Stormwater Channel	Pathogens, Toxaphene	FRSH, REC I, REC II, WARM WILD, RARE	Approximately 2 miles

Hands-on Exercise

Verifying Project Receiving Waters

❖ Guidance Document Table 2, Page 8:

- ❖ Sub-watershed
- ❖ Receiving waters

Table 2. List of Sub-Watersheds/Receiving Waters in Whitewater River Watershed

Drains or Streams ^a	Washes ^b
Coachella Valley Stormwater Channel	Bear Creek
Little Morongo Creek	Deep Canyon Stormwater Channel
Palm Canyon Creek	East Cathedral Canyon Channel
San Geronio River	East Magnesia Canyon Channel
Tahquitz Creek	La Quinta Evacuation Channel
Whitewater River	La Quinta Resort Channel
	Smith Creek
	West Cathedral Canyon Channel
	West Magnesia Canyon Channel
	Whitewater River from recharge basins to the Coachella Valley Stormwater Channel

Coachella Valley Stormwater Channel

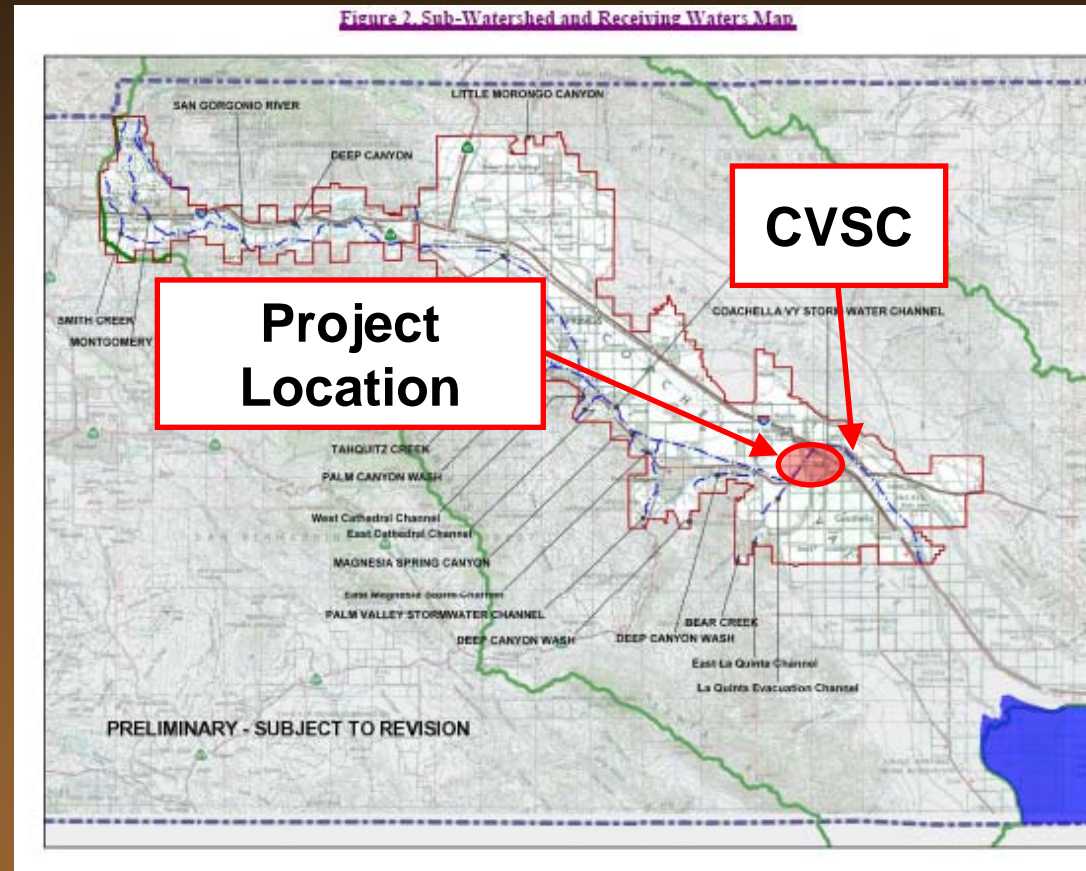
Notes: a. Colorado River Basin Regional Water Quality Control Board Order No. R7-2008-0001, Finding 50.

b. Colorado River Basin Regional Water Quality Control Board Order No. R7-2008-0001, Finding 49.

Hands-on Exercise

Locating the Project Receiving Waters

- ❖ Maps from Flood Control, USGS, and others are useful in finding the receiving waters
- ❖ Guidance Document Page 9 - Figure 2 ➡



Hands-on Exercise

Side Bar - Project Receiving waters

- ❖ Projects with on-site retention requirements must still list the Coachella Valley Storm Channel as their receiving waters



Example - Receiving Waters

Hands-on Exercise

Section II—Receiving Water's Impairment



- ❖ 303(d) list Impairments
- ❖ What is a 303(d) list?
 - ❖ Identifies which waters do not meet water quality standards

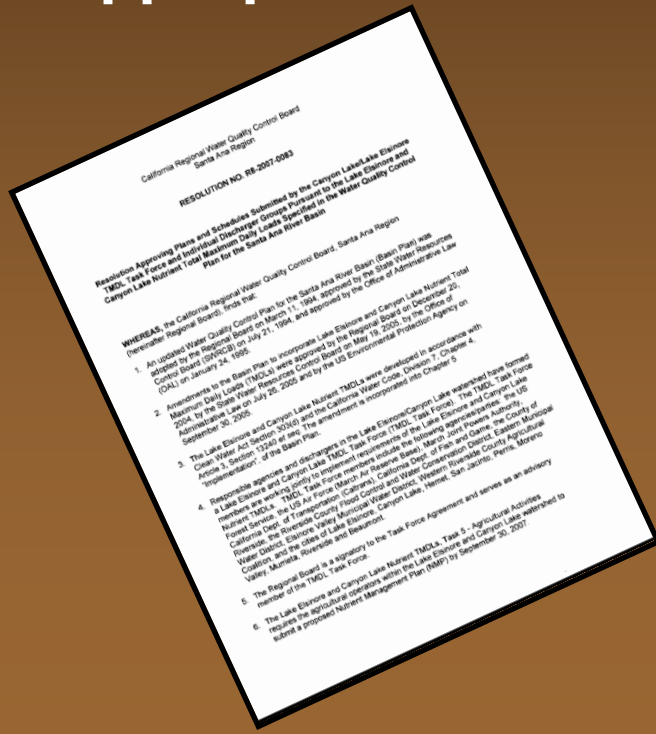
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Hands-on Exercise

Side Bar - Important note about TMDLs

- ❖ Total Maximum Daily Loads (TMDLs) are detailed Action Plans for waters that are impaired per the 303(d) list
- ❖ Once adopted by the Regional Board, it is important that activities listed in the TMDL are implemented where appropriate



REGION	TYPE	NAME	CALWATER WATERSHED	POLLUTANT/STRESSOR	POTENTIAL SOURCES	TMDL REQUIREMENT STATUS*	ESTIMATED SIZE AFFECTED	PROPOSED OR USEPA APPROVED TMDL COMPLETION
				PCBs (Polychlorinated biphenyls)		A	57 Miles	2019
					Source Unknown			
				Sedimentation/Siltation		B	57 Miles	2002
					Agricultural Return Flows			
				Selenium		A	57 Miles	2003
					Selenium originates from Upper Basin Portion of Colorado River. Elevated fish tissue levels. For 2006, selenium was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.			
				Toxaphene		A	57 Miles	2019
					Agricultural Return Flows			
					Source Unknown			
7	R	Coachella Valley Storm Water Channel	71947000					
				Pathogens		A	24 Miles	2006
					This listing for pathogens only applies to a 17 mile area of the Coachella Valley Storm Water Channel from Dillon Road to the Salton Sea.			
					Source Unknown			
				Toxaphene		A	24 Miles	2019
					This listing for toxaphene only applies to a 2 mile area of the Coachella Valley Storm Water Channel from Lincoln Street to the Salton Sea.			
					Source Unknown			

Hands-on Exercise

Determining Receiving Water Impairments

❖ Impairments of receiving waters can be obtained from several sources:

❖ County website for Resources

➤ <http://www.rcflood.org> (verified May 2009)

❖ Your Agency NPDES Coordinator

❖ California Clean Water Act Section 303(d) list of impaired water quality segments and TMDL

➤ http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_approved.shtml (verified April 2009)

Hands-on Exercise Using the 303(d) list

❖ Coachella Valley Storm Channel - CVSC

2006 CWA SECTION 303(d) LIST OF WATER QUALITY LIMITED SEGMENTS

(Those requiring TMDLS (A), being addressed by USEPA approved TMDLS (B), and being addressed by actions other than TMDLS (C))*

USEPA APPROVAL DATE: JUNE 28, 2007

USEPA APPROVAL DATE: JUNE 28, 2007

REGION	TYPE	NAME	CALWATER WATERSHED	POLLUTANT/STRESSOR	POTENTIAL SOURCES	TMDL REQUIREMENT STATUS*	ESTIMATED SIZE AFFECTED	PROPOSED OR USEPA APPROVED TMDL COMPLETION
Receiving Water Names	R	Coachella Valley Storm Water Channel	7194700	PCBs (Polychlorinated biphenyls)		A	57 Miles	2019
				Sedimentation/Siltation	Source Unknown	B	57 Miles	2002
				Selenium	Agricultural Return Flows	A	57 Miles	2003
				Selenium originates from Upper Basin Portion of Colorado River. Elevated fish tissue levels. For 2006, selenium was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.				
				Toxaphene	Agricultural Return Flows	A	57 Miles	2019
					Source Unknown			
				Pathogens		A	24 Miles	2006
				This listing for pathogens only applies to a 17 mile area of the Coachella Valley Storm Water Channel from Dillion Road to the Salton Sea.				
Pollutant Stressors				Toxaphene		A	24 Miles	2019
				This listing for toxaphene only applies to a 2 mile area of the Coachella Valley Storm Water Channel from Lincoln Street to the Salton Sea.				
					Source Unknown			

TMDL Status

Hands-on Exercise

Receiving Water Impairments Summary



❖ CVSC is Impaired for:

❖ **Pathogens** - From Dillon Road to Salton Sea

Bacteria and Viruses

See Page 53

❖ **Toxaphene** - From Lincoln Street to Salton Sea

Mixture of Organic compounds

From Internet search

Hands-on Exercise

Beneficial Use Defined

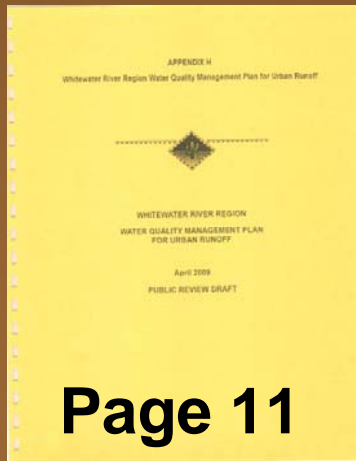


❖ Beneficial Use

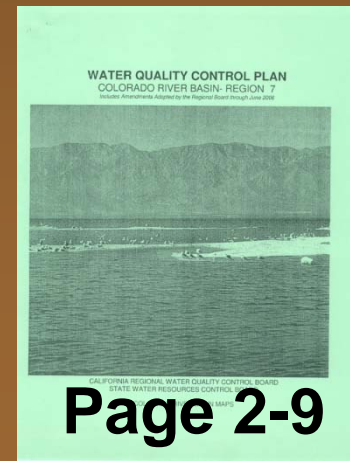
- ❖ The uses of water necessary for the survival and well being of humans, plants and wildlife

Receiving Waters for Urban Runoff from Site

Receiving Waters	303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Coachella Valley Stormwater Channel	Pathogens, Toxaphene	FRSH, REC I, REC II, WARM WILD, RARE	Approximately 2 miles



Page 11



Page 2-9

Distance of Project from waterbody

Hands-on Exercise

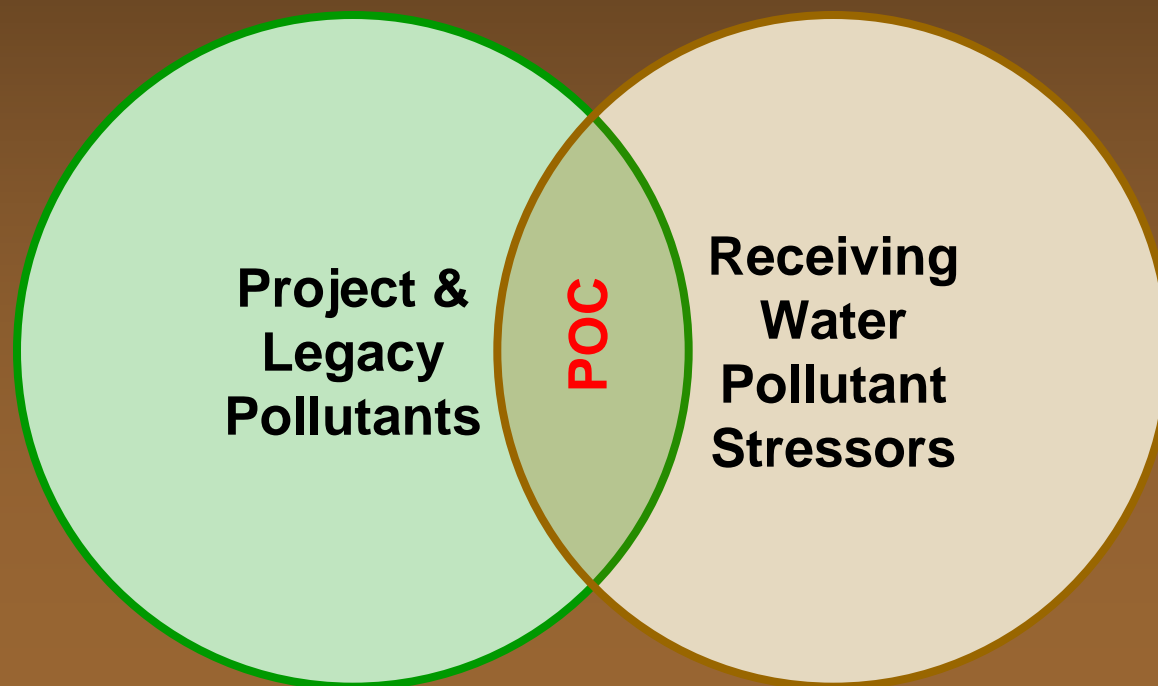
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Hands-on Exercise

Section II - Pollutants of Concern

- ❖ **Pollutants of Concern (POC) are those Project Pollutants that have been identified as Pollutant Stressors in Project Receiving Waters**
 - ❖ 303(d) list pollutant stressors
 - ❖ Constituents addressed in TMDLs



Hands-on Exercise

Locating Project Pollutants



- ❖ Expected Project Pollutants depend on the Project Category!
- ❖ Exhibit B - Page 54 identifies potential pollutants for each project category.

Potential Pollutants Generated by Land Use Type

(Excerpted, with minor revision, from the San Bernardino Water Quality Management Plan dated April 14, 2004)

Type of Development (Land Use)	Sediment/ Turbidity	Nutrients	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Bacteria & Viruses	Oil & Grease	Pesticides	Metals
Detached Residential Development	P	P	N	P	P	P	P	P	N
Attached Residential Development	P	P	N	P	P ⁽¹⁾	P	P ⁽²⁾	P	N
Commercial/ Industrial Development	P ⁽¹⁾	P ⁽¹⁾	P ⁽⁵⁾	P	P ⁽¹⁾	P ⁽³⁾	P	P ⁽¹⁾	P
Automotive Repair Shops	N	N	P ^(4,5)	P	N	N	P	N	P
Restaurants	N	N	N	P	P	P	P	N	N
Hillside Development	P	P	N	P	P	P	P	P	N
Parking Lots	P ⁽¹⁾	P ⁽¹⁾	P ⁽⁴⁾	P	P ⁽¹⁾	P ⁽⁵⁾	P	P ⁽¹⁾	P
Streets, Highways & Freeways	P	P ⁽¹⁾	P ⁽⁴⁾	P	P ⁽¹⁾	P ⁽⁵⁾	P	P ⁽¹⁾	P

Abbreviations:

P = Potential

N = Not potential

Hands-on Exercise Determining Project Pollutants



- ❖ Table 2 is easy to use!
- ❖ Locate all applicable project categories and their pollutants!

Potential Pollutants Generated by Land Use Type

(Excerpted, with minor revision, from the San Bernardino Water Quality Management Plan dated April 14, 2004)

Type of Development (Land Use)	Sediment/ Turbidity	Nutrients	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Bacteria & Viruses	Oil & Grease	Pesticides	Metals
Detached Residential Development	P	P	N	P	P	P	P	P	N
Attached Residential Development	P	P	N	P	P(1)	P	P(2)	P	N
Commercial/ Industrial Development	P(1)	P(1)	P(5)	P	P(1)	P(3)	P	P(1)	P
Automotive Repair Shops	N	N	P(4,5)	P	N	N	P	N	P
Restaurants	N	N	N	P	P	P	P	N	N
Hillside Development	P	P	N	P	P	P	P	P	N
Parking Lots	P(1)	P(1)	P(4)	P	P(1)	P(5)	P	P(1)	P
Streets, Highways & Freeways	P	P(1)	P(4)	P	P(1)	P(5)	P	P(1)	P

Abbreviations:

P = Potential N = Not potential

Hands-on Exercise Project Pollutants



❖ When determining Project Pollutants...

- ❖ Stick with Exhibit B unless you have a very good reason to deviate!
- ❖ If you deviate, document your reasons in the project file...you may be called on later to explain the change
- ❖ Pay particular attention to the “Notes” at the bottom of the table

Abbreviations:

P = Potential N = Not potential

Notes:

- (1) A potential pollutant if landscaping or open area exists on the Project site.
- (2) A potential pollutant if the project includes uncovered parking areas.
- (3) A potential pollutant if land use involves animal waste.
- (4) Specifically, petroleum hydrocarbons.
- (5) Specifically, solvents.
- (6) Bacterial indicators are routinely detected in pavement runoff.

Hands-on Exercise Project Pollutants

Potential Pollutants Generated by Land Use Type
(Excerpted, with minor revision, from the San Bernardino Water Quality Management Plan dated April 11, 2004)

Type of Development (Land Use)	Sediment/ Turbidity	Nutrients	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Bacteria & Viruses	Oil & Grease	Pesticides	Metals
Detached Residential Development	P	P	N	P	P	P	P	P	N
Attached Residential Development	P	P	N	P	P(1)	P	P(1)	P	N
Commercial/Industrial Development	P(1)	P(1)	P(5)	P	P(1)	P(3)	P	P(1)	P
Automotive Repair Shops	N	N	P(4)	P	N	N	P	N	P
Restaurants	N	N	N	P	P	P	P	N	N
Hotels	P	P	N	P	P	P	P	P	N
Landscaping	P(1)	P(1)	P(5)	P	P(1)	P(3)	P	P(1)	P(6)
Streets, Highways & Freeways	P	P(1)	P(4)	P	P(1)	P(4)	P	P(1)	P

Abbreviations:
P = Potential N = Not potential

❖ Project Pollutants

- ❖ **Sediment/Turbidity - A potential pollutant (Note 1)**
- ❖ **Nutrients – A potential pollutant (Note 1)**
- ❖ **Organic Compounds – A potential pollutant (Note 5) (Note 4)**
- ❖ **Trash and Debris – A potential pollutant**
- ❖ **Oxygen Demanding Substances – A potential pollutant (Note 1)**
- ❖ **Bacteria and Viruses – A potential pollutant (Note 3) (Note 6)**
- ❖ **Oil and Grease – A potential pollutant**
- ❖ **Pesticides – A potential pollutant (Note 1)**
- ❖ **Metals – A potential pollutant**

- ❖ **Note 1 – Potential pollutant if landscaping/open area exists on the project site**
- ❖ **Note 3 – A potential pollutant if land use involves animal waste**
- ❖ **Note 4 – Specifically petroleum hydrocarbons**
- ❖ **Note 5 – Specifically solvents**
- ❖ **Note 6 – Bacterial indicators are routinely detected in pavement runoff**

Hands-on Exercise

Project POCs - Summary

❖ Project's Category Pollutants are:

- ❖ Sediment/turbidity
- ❖ Nutrients
- ❖ Trash and Debris
- ❖ Organic Compounds
- ❖ Oxygen Demanding Substances
- ❖ Bacteria and Viruses
- ❖ Oil and Grease
- ❖ Pesticides
- ❖ Metals

❖ Project's Receiving water impairments are:

❖ Pathogens

❖ Toxaphene

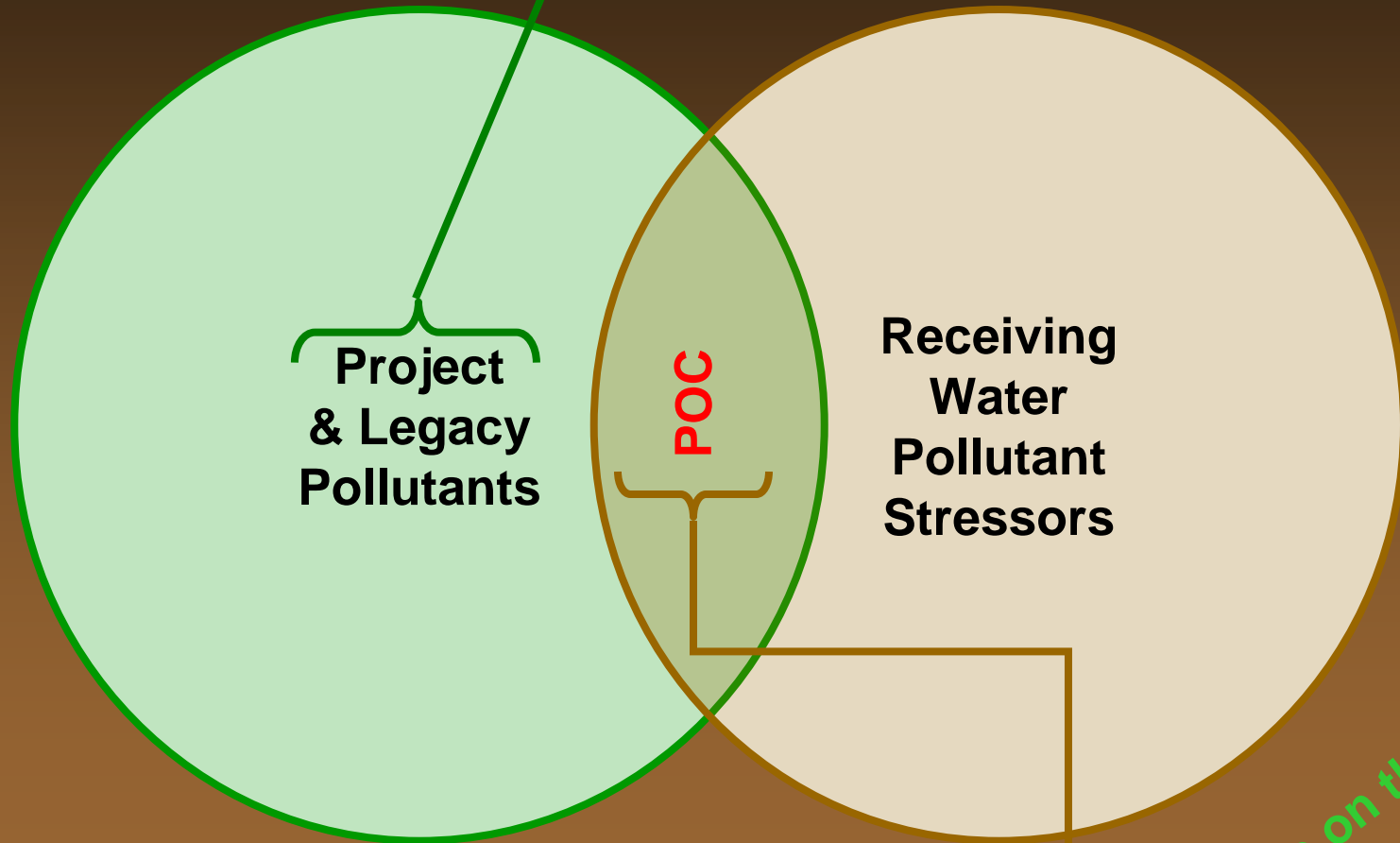
❖ Pollutants of Concern:

- Pathogens
- Organic Compounds

Hands-on Exercise

Pollutants of Concern

Address these pollutants using BMPs



Address these pollutants using BMPS with a
High or Medium effectiveness

More on this later!

Hands-on Exercise

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- ❖ **Tables**
- ❖ **Appendices**

Hands-on Exercise

Section IV - What is HCOC?



- ❖ **Hydraulic Condition of Concern**
 - ❖ A change to the hydraulic pattern of a project site that can permanently impact downstream channels and habitat integrity
- ❖ **Is the Project required to retain urban runoff onsite?**
 - ❖ Yes – Do NOT need to complete this section
 - ❖ No – Complete selection and provide supporting calculations

Whitewater River Region WQMP	
Project Title	
IV. Hydrologic Conditions of Concern	
Local Jurisdiction Requires On-Site Retention of Urban Runoff:	
Yes	<input type="checkbox"/> The project will be required to retain urban runoff onsite in conformance with local ordinance (See Table 6, Permittees Requiring Onsite Retention of Stormwater, of the Whitewater River Region WQMP). This section does not need to be completed.
No	<input checked="" type="checkbox"/> This section must be completed.

Hands-on Exercise

Section IV - HCOC Conditions



❖ The Project-Specific WQMP must address HCOCs unless it meets one of the following:

➤ Condition A

➤ Condition B

➤ Condition C

❑ Requires supporting calculations and reports in Appendix C

This Project meets the following condition:



Condition A: Runoff from the Project is discharged directly to a publicly-owned, operated and maintained MS4; the discharge is in full compliance with Permittee requirements for connections and discharges to the MS4 (including both quality and quantity requirements); the discharge would not significantly impact stream habitat in proximate Receiving Waters; and the discharge is authorized by the Permittee.



Condition B: The project disturbs less than 1 acre and is not part of a larger common plan of development that exceeds 1 acre of disturbance. The disturbed area calculation must include all disturbances associated with larger plans of development.



Condition C: The project's runoff flow rate, volume, velocity and duration for the post-development condition do not exceed the pre-development condition for the 2-year, 24-hour and 10-year 24-hour rainfall events. This condition can be achieved by minimizing impervious area on a site and incorporating other site-design concepts that mimic pre-development conditions. This condition must be substantiated by hydrologic modeling methods acceptable to the Permittee.



None

Refer to Section 3.4 of the Whitewater River Region WQMP for additional requirements.

Hands-on Exercise

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Hands-on Exercise

Section V - Best Management Practices



❖ Site Design and Treatment Control BMPs

- ❖ Is the Project required to retain urban runoff onsite?
 - Yes – Do NOT need to complete this section
 - No – Complete selection and provide supporting calculations

V.1 SITE DESIGN AND TREATMENT CONTROL BMPs

Local Jurisdiction Requires On-Site Retention of Urban Runoff:

- Yes ☐ The project will be required to retain urban runoff onsite in conformance with local ordinance (See Table 6, Permittees Requiring Onsite Retention of Stormwater, of the Whitewater River Region WQMP). This section does not need to be completed.
- No ☒ This section must be completed.